

Creating Accessible Content

ADA Conference, October 31, 2019
Presenter: Valerie Morrison, Ph.D.
E-text Manager, CIDI

CREATING THE NEXT®



Key Points for Presentation

1. Describe the work I do making accessible content for CIDI.
2. Explore the three most important considerations in accessible content: design, images, and navigation.
3. Outline best practices for creating accessible content in Microsoft Word Docs, PDF Files, and PowerPoint Presentations.





CIDI's Products and Services include: E-Text, Braille, Captioning and Described Media, Assistive Technology Demos and Evaluations, ICT Accessibility Trainings and Website Evaluations

E-Text Products and Services



- Accessible PDF
- Microsoft Word DOC
- EPUB
- DAISY
- HTML
- Accessible Math
- Enhanced Tagged PDF
- PowerPoint

Who Uses Accessible Media

The audience for Accessible Media is not just people with disabilities. It is far larger than you would imagine:

- Individuals who are blind, or experience color blindness or low vision
- Students with mobility issues who cannot hold a textbook
- Students with motor disabilities who cannot turn pages
- The Deaf and Hard of Hearing Community
- Students with learning disabilities such as dyslexia or ADHD
- Students with head injuries, trauma, or cognitive disabilities
- Auditory learners
- Aging population

What Needs to Be Accessible?

Ideally, everything in an educational environment or posted online should be made accessible:

- Textbooks and Course Materials
- Course Syllabi and Exams
- Handouts
- Courses Websites
- Readings and Course Packets



3 Tips for Greater Accessibility

Keep these 3 ideas in mind for greater accessibility across all programs:

1. Are my design choices accessible?

Have I chosen fonts, colors, and backgrounds that are easy to discern?

2. Are my visuals clearly and fully described?

Have I written alternative text descriptions and captions for my images?

3. Is my content easy to navigate?

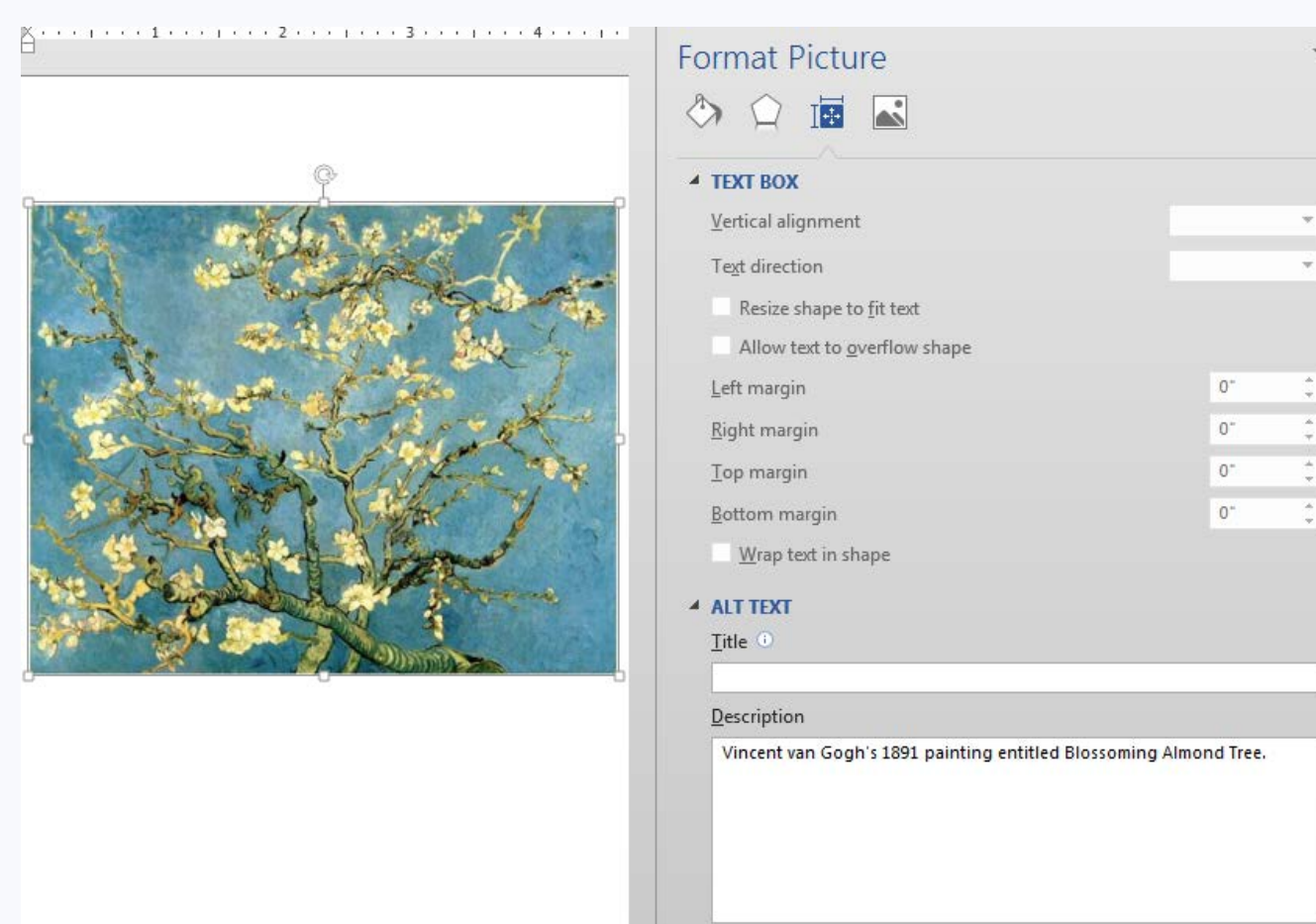
Have I created headings and bookmarks for easy navigation?

Accessible Design Choices

- Font size (12 pt. minimum).
- Sans serif fonts are best (Calibri, Arial, Verdana, Helvetica, Geneva).
- Avoid large amounts of italicized, bold, underlined, or capitalized text.
- Color contrast should reduce eye strain (yellow text on black background is most accessible).
- Do not rely on color coding alone to convey meaning.
- If you must use graphics, try to convey the meaning in text as well, and always provide a caption and alt text description.
- Explain all acronyms, symbols, and abbreviations for your audience at the top of the page, not the bottom.
- Provide meaningful context for hyperlinks whenever possible.
- Organize material with clear headings and logical structure.

Alternative Text Descriptions

All images in a document should be fully described using proper capitalization, grammar, spacing, and punctuation.



To add alternative text:

- Right-click on the image.
- Choose Format Picture.
- Select Layout Properties icon.
- Click on the Alt Text link.
- Type in the description field.
- Do not use hard line breaks.

How to Describe Images

- First summarize what you see in one general informative sentence.
- Keep your description neutral and informative.
- Use proper grammar, spelling and punctuation.
- Avoid acronyms and symbols.



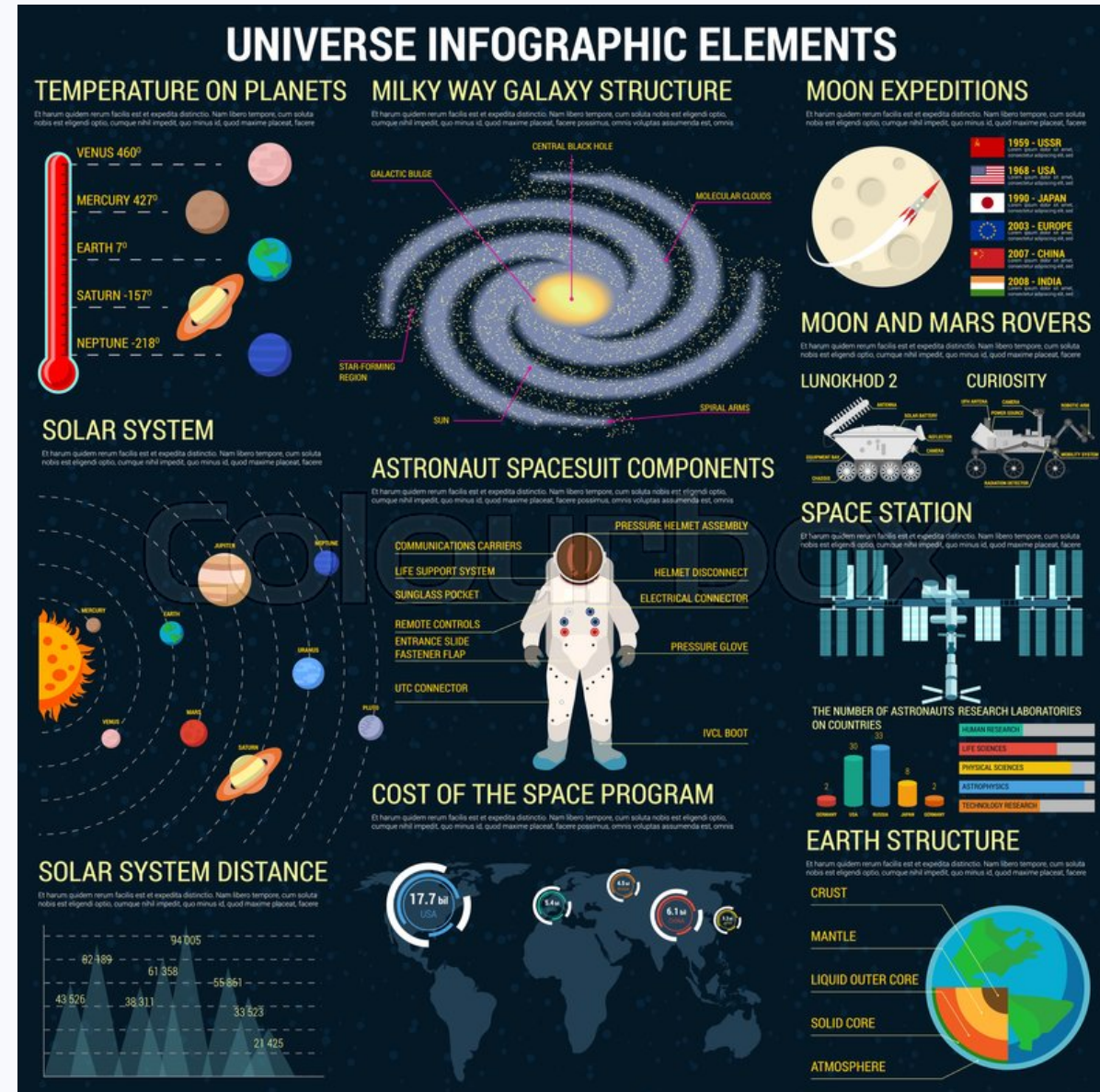
How Much Is Too Much?



- Best practice is 125 characters, or the length of a Tweet.
- The default setting for JAWS screen reading software pauses after 250 characters.
- However, depending on purpose or audience, alt text can get quite long.

Consider Cognitive Load

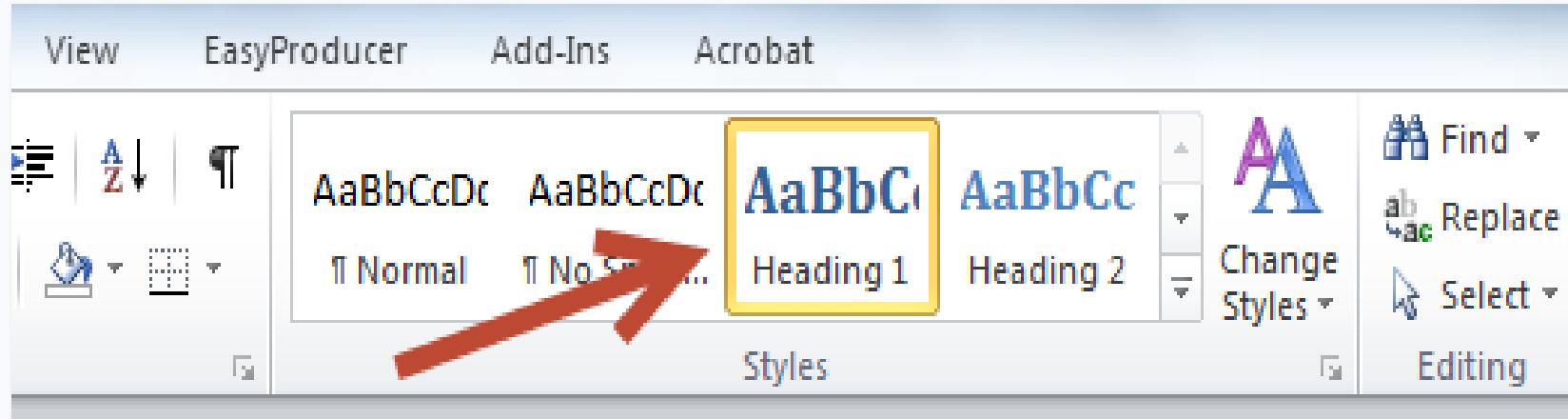
- Cognitive load, also referred to as Auditory Fatigue, is something to consider when writing alternative text, so that you don't overwhelm the listener.
- If there is too much information contained in an alt text, it is best to shorten the alt text and add a table or list to accompany the image. This table or list can hold the information in a more logical way.
- Keep your alt text descriptions as concise as possible and edit out repetition. Also try to group items so your description is easier for someone to process.



Microsoft Word Accessibility

1. Choosing accessible fonts and design features.
2. Creating multiple levels of headings for navigation.
3. Generating an automated table of contents.
4. Writing alternative text descriptions and/or captions for images.
5. Creating accessible numbered and bulleted lists.
6. Establishing a logical reading order.
7. Formatting accessible tables and not using tables for layout purposes.
8. Creating white space with page layout tools (not tab, enter, space bar).
9. Using column breaks, section breaks, and page breaks.
10. Using the accessibility checker to find and fix errors.

Adding Headings for Navigation



- Add Headings to Microsoft Word Docs for easy navigation and to mark important chapters or subsections.
- Highlight a word or line in your document and select a Heading Level in the Styles group on the Home Ribbon.
- To view all Headings within your document, click on the View Tab and check the Navigation Pane box.

The Navigation Pane in Word

The screenshot displays the Microsoft Word interface. The title bar shows 'DOC Example.docx - Word'. The ribbon includes tabs for File, Home, Insert, Design, Layout, References, Mailings, Review, View, ABBYY FineReader 12, Tell me..., Morrison, Valerie M, and Share. The ribbon is currently set to the Home tab, showing Font, Paragraph, and Styles groups. The Navigation Pane is open on the left, with a search box and tabs for Headings, Pages, and Results. The 'Headings' tab is selected, showing a list of document sections. The main document area displays the following text:

DOWN TO EARTH: NATURE'S ROLE IN AMERICAN HISTORY
Third Edition

TED STEINBERG

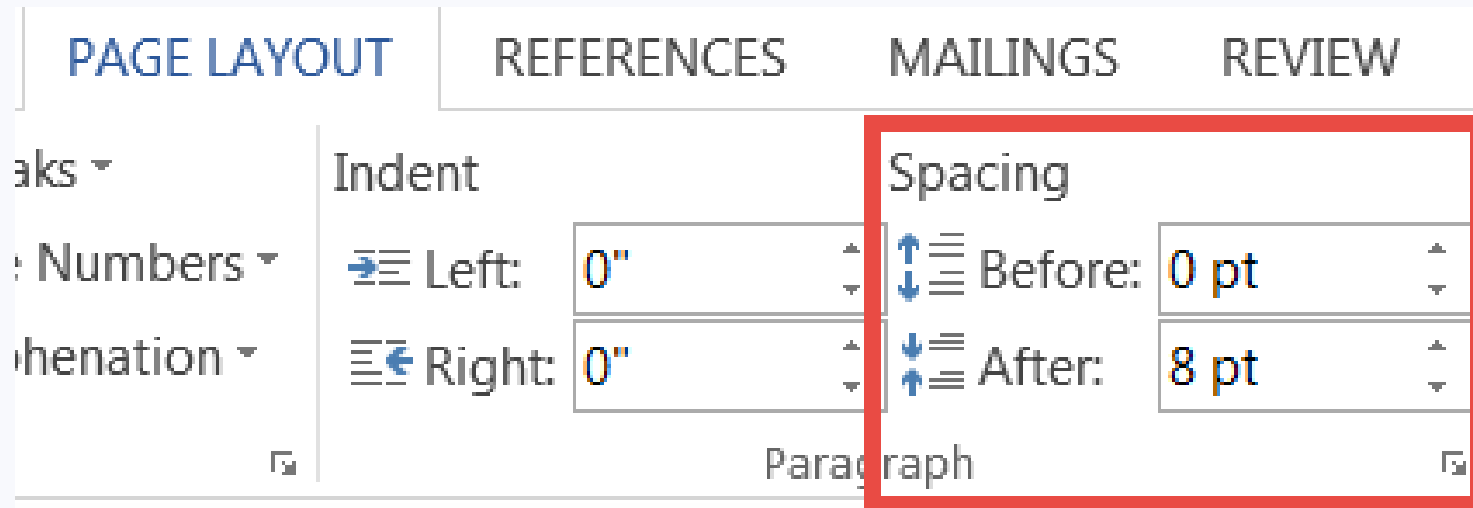
Case Western Reserve University

NEW YORK OXFORD

OXFORD UNIVERSITY PRESS |

Using Accessible Spacing

- Only adjust spacing using page layout, line spacing, section breaks, and ruler. Do not hit enter or tab repeatedly to create white space.
- Create columns with Microsoft Word's formatting tools, not by tabbing or creating a makeshift table to arrange text.
- Inserting section breaks and adjusting your margins can help you change the layout of your page if necessary.



Creating Accessible Tables

Tables should:

- Have a header row.
- Have a logical reading order.
- Contain related information.
- Consist of the same number of cells in each column and row.
- Have a title and caption that gives an overview of what's inside the table. If placed before the table, it allows students to focus and interpret the data.
- Have structural alt text that describes the organization of the table, ie. "A table with 3 columns and 10 rows. The column headers are Faculty, Course Number, and Course Description."

The Accessibility Checker

- Save your document as a .docx file.
- Go to the **File** tab and click on **Check for Issues**, and select **Check Accessibility**.
- The accessibility checker will open in a separate pane and list all accessibility issues with links to each potential problem.
- Additional information appears below, instructing you on why this might cause a problem and how to fix the issue.

The screenshot shows the 'Accessibility Checker' window with the following structure:

- Accessibility Checker** (Title bar)
- Inspection Results** (Section header)
- ERRORS** (Section header)
 - Missing Alt Text
 - Table** (Selected item, highlighted in blue)
 - No Header Row Specified (2)
- WARNINGS** (Section header)
 - Infrequent Headings (18)
 - Merged or Split Cells (10)
 - Unclear Hyperlink Text (11)
 - Heading is Too Long (4)
 - Repeated Blank Characters (194)
- TIPS** (Section header)
 - Check Reading Order (17)
- Additional Information** (Section header)
 - Why Fix:** (Circled in red)
Alternate text helps readers understand information presented in pictures and other objects.
 - How To Fix:** (Circled in red)
To add alternate text to a table:

Select and fix each issue listed above to make this document accessible for people with disabilities.
 - [Read more about making documents accessible](#)

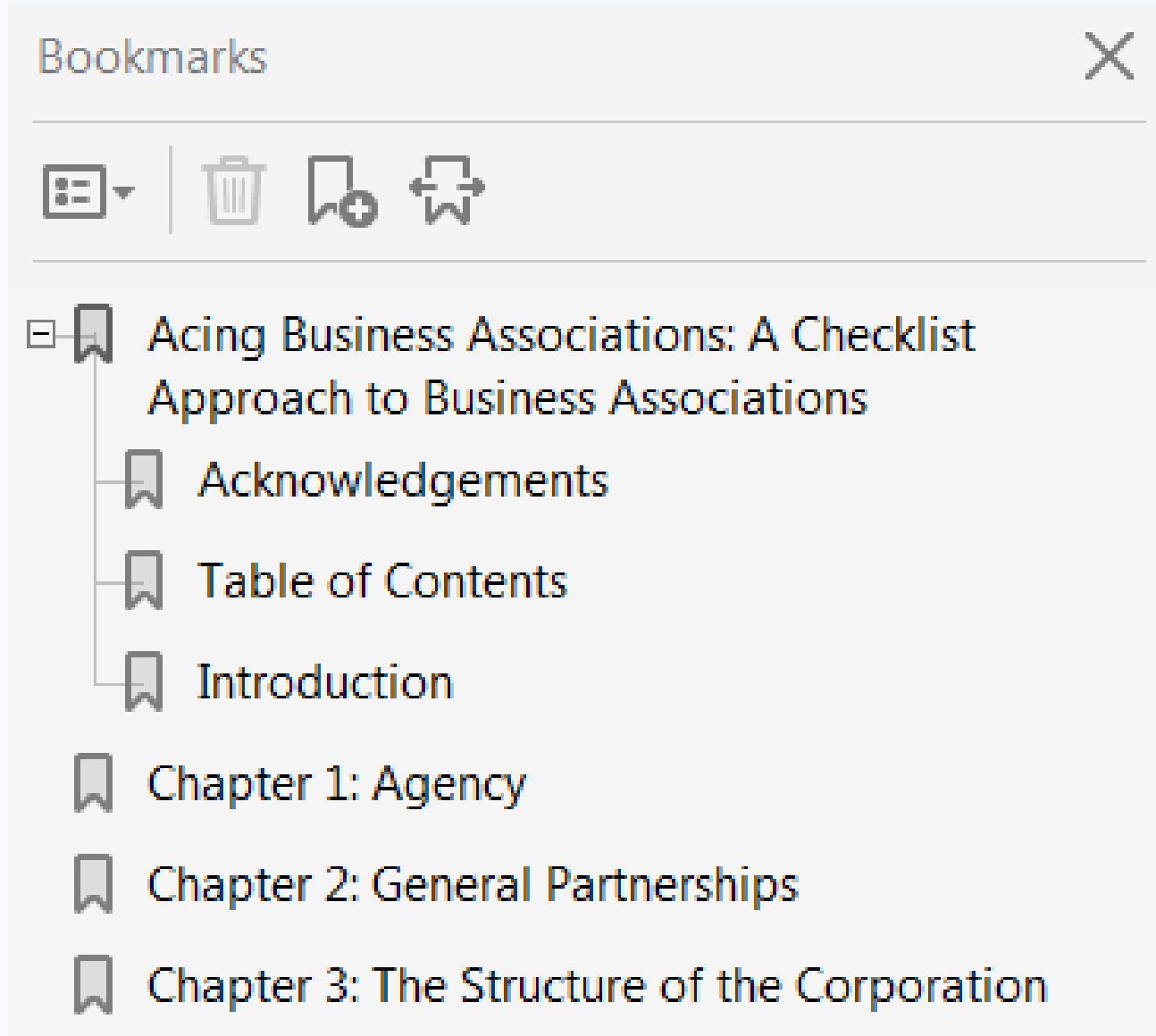
Annotations in the image:

- A red speech bubble points to the 'Table' error with the text 'Click the error'.
- A red box highlights the 'Additional Information' section with the text 'Additional Information is provided about why to fix and how to fix this error.'
- A red arrow points from the 'Additional Information' section back to the 'Table' error.

PDF Accessibility

1. Save as PDF from MS Word to retain accessibility features.
2. Text is accessible and highlights in proper reading order.
3. Bookmarks provide organization and easy navigation.
4. Pagination is clear and navigable.
5. Tags are present, or the file is autotagged.
6. File size is manageable, ideally under 25 MB.
7. File names are clear and contain no symbols.
8. Images have alt text descriptions if necessary, using T.U.R.O. tool.
9. Language and metadata are included in document properties.
10. Color contrast is high for ease of reading.

The Bookmarks Pane in Adobe



- To adjust the hierarchy of your bookmarks, drag them up and under the “parent bookmark” so they appear indented.
- You can edit the text of a bookmark, to include the word “Chapter” for instance.

Adding Bookmarks for Navigation



Models of Abnormality

Philip Berman, a 25-year-old single, had been hospitalized... *Mr. Berman had felt frequent...*

- Copy Ctrl+C
- Copy With Formatting
- Edit Text
- Export Selection As...
- Highlight Text
- Strikethrough Text
- Add Note to Replace Text
- Add Note to Text
- Add Bookmark Ctrl+B
- Create Link
- Look Up "Abnormality"

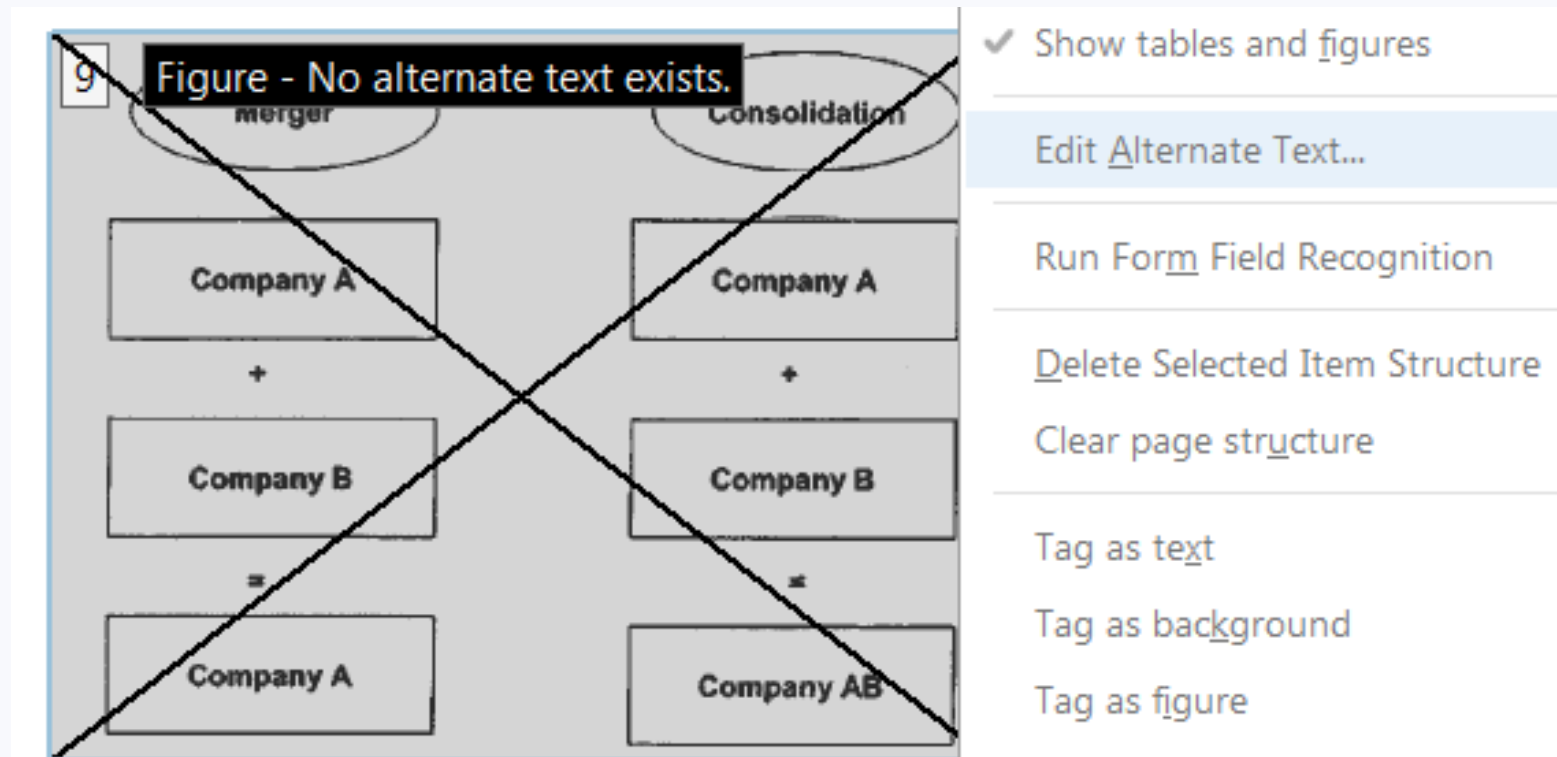
CHAPTER 3

TOPIC OVERVIEW

- The Biological Model
 - How Do Biological Theorists Explain Abnormal Behavior?
 - Biological Treatments
 - Assessing the Biological Model
- The Psychodynamic Model
 - How Did Freud Explain Normal and Abnormal Functioning?
 - How Do Other Psychodynamic Explanations Differ from Freud's?
 - Psychodynamic Therapies
 - Assessing the Psychodynamic Model
- The Cognitive-Behavioral Model
 - The Behavioral Dimension
 - The Cognitive Dimension
 - The Cognitive-Behavioral Interplay
 - Assessing the Cognitive-Behavioral Model
- The Humanistic-Existential Model
 - Rogers' Humanistic Theory and Therapy
 - Gestalt Theory and Therapy
 - Spiritual Views and Interventions
 - Existential Theories and Therapy
 - Assessing the Humanistic-Existential Model
- The Sociocultural Model: Family-Social and Multicultural Perspectives
 - How Do Family-Social Theorists Explain Abnormal Functioning?
 - Family-Social Treatments
 - How Do Multicultural Theorists Explain Abnormal Functioning?
 - Multicultural Treatments
 - Assessing the Sociocultural Model
- Integrating the Models: The Developmental Psychopathology Perspective

Add Bookmarks to PDF files to allow for easy navigation. Highlight text and right click, or press CTRL + B.

Adding Alt Text to a PDF File



To add alt text descriptions to images in a PDF file, it's easiest to turn on T.U.R.O. in the Accessibility Tools, which stands for "Touch Up Reading Order." This highlights all figures for you, and you can then right click on the ones needing descriptions and select "Edit Alternative Text."

Accessibility Report

- You can also generate an Accessibility Report in the Accessibility Tools options.
- Click on “Full Check” to open a list of things you’d like your check to include, such as figures missing alt text, missing bookmarks, errors in reading order, color contrast, not having a language selected, etc.

The screenshot shows the 'Accessibility Checker Options' dialog box. It is divided into several sections:

- Report Options:** Includes a checked checkbox for 'Create accessibility report' with a 'Folder: C:\Users\vmorrison6\Documents' and a 'Choose...' button. There is also an unchecked checkbox for 'Attach report to document'.
- Page Range:** Features a radio button selected for 'All pages in document' and another radio button for 'Pages from' with input fields containing '222' and 'to' followed by another '222'.
- Checking Options (31 of 32 in all categories):** A dropdown menu is set to 'Document'. Below it are several checked checkboxes:
 - Accessibility permission flag is set
 - Document is not image-only PDF
 - Document is tagged PDF
 - Document structure provides a logical reading order
 - Text language is specified
 - Document title is showing in title bar
 - Bookmarks are present in large documents
 - Document has appropriate color contrast
- At the bottom of this section are 'Select All' and 'Clear All' buttons.
- Footer:** Includes a checked checkbox for 'Show this dialog when the Checker starts', a 'Help' button, and 'Start Checking' and 'Cancel' buttons.

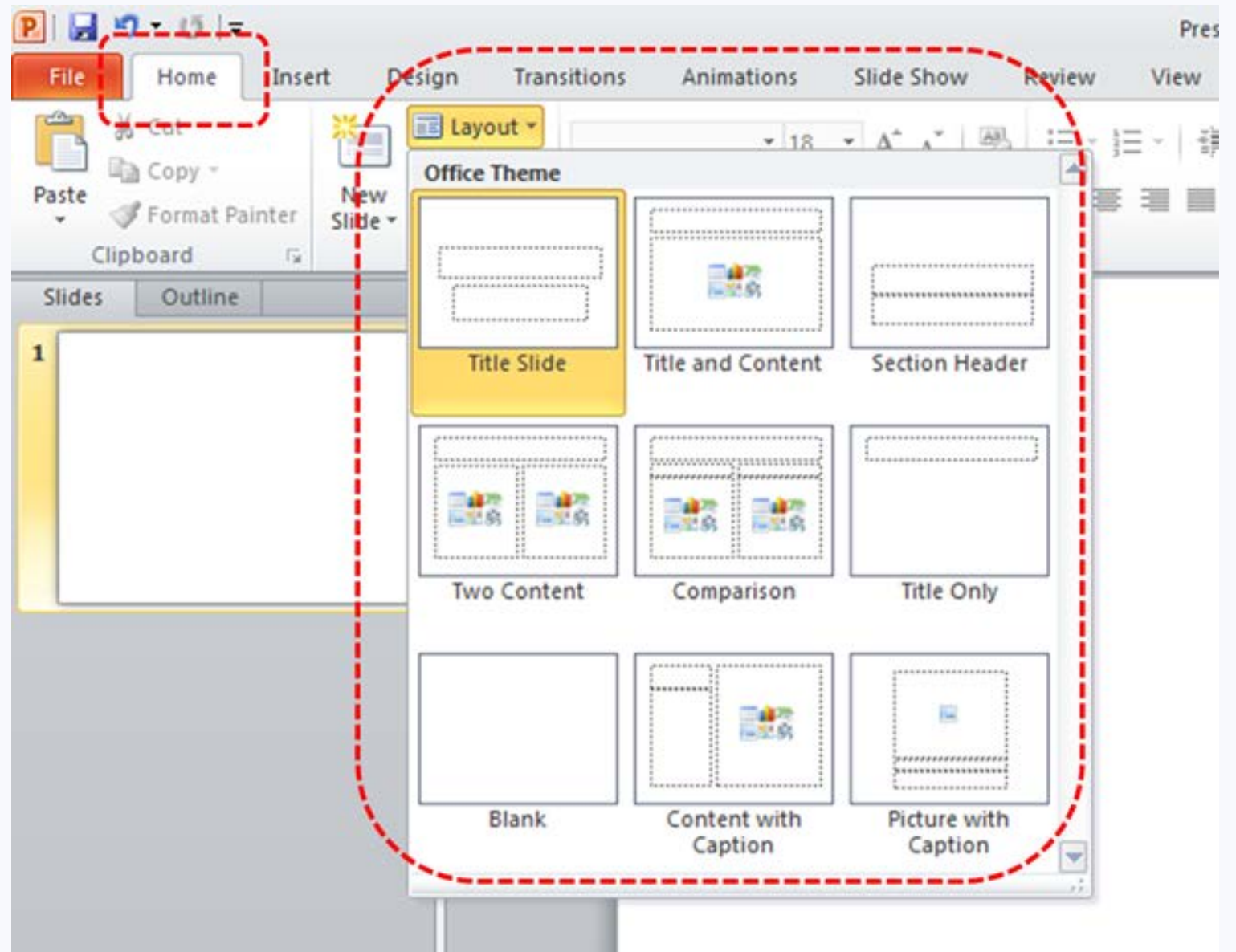
PowerPoint Accessibility

1. Use Layout Templates so that all text is visible in the outline view.
2. All slides should have unique titles for easy navigation and clarity.
3. Choose fonts and color contrast for greatest visibility.
4. All graphics/images should have brief alternative text descriptions.
5. Create white space with page layout tools (not tab, enter, space bar).
6. Tables should have a header row, alt text description, and caption.
7. Lists should be created with the bullet and list toolbar buttons.
8. Reading order can be adjusted in the Selection Pane.
9. Add metadata (title, author) on the File Tab.
10. Use the built in checker to create an accessibility report.

Accessible Layouts

Use PowerPoint's built-in templates, not the text boxes which can be inaccessible to screen readers.

- Go to Home Ribbon
- Click on Layout
- Right clicking on the slide pulls up layout options, as well.



Unique Slide Titles

- Each slide should have a unique descriptive title to help someone navigate through the presentation.
- Slide titles help everyone understand and focus on your key points.
- Clear organization and logical section breaks help your audience know where they are in your presentation.

- 6 **DNA Stores Genetic Information as a Sequence of Nucleotides**
 - DNA is a nucleic acid composed of two strands of polynucleotides twisted to form a double helix.
 - Four different nucleotides make up polynucleotides and can be found in the DNA of all cells.
- 7 **The Genome Is the Total DNA-Based Information Held in the Chromosomes**
- 8 **Generally, Complex Organisms Have a Larger Genome and a Larger Number of Genes**
- 9 **Most Genes Code for Proteins, Which Generate Phenotypes**
- 10 **A Unique Set of Genes Is Expressed in Each Specialized Cell Type**
- 11 **The Three-Dimensional Structure of DNA**
- 12 **DNA's Structure Explains Its Function**
 - Base pair is the term for two nitrogenous bases held together by hydrogen bonds in a DNA molecule.
 - Base-pairing rules, first proposed by Watson and Crick, state that a base on one strand of DNA pairs exclusively with a corresponding base on the other strand, resulting in two *complementary stands* of DNA.
- 13 **DNA Stores Information in the Order of the Bases in the Polynucleotide Chain**
- 14 **DNA Replication Is Semiconservative**
- 15 **Few Mistakes Are Made in DNA Replication**

Selecting Reading Order

- In the **Drawing** section, select **Arrange > Selection Pane...**
- In the **Selection and Visibility** pane, all the elements on the slide are listed in reverse order. The tab order of objects begins at the bottom of the list and tabs upwards.
- Elements can be re-ordered using the arrows at the bottom of the Selection and Visibility pane.
- The fewer objects on a slide, the more accessible for someone using a screen reader to listen to content aloud.

Selection and Visibility

Shapes on this Slide:

Picture 16



Picture 13



Content Placeholder 8



Text Placeholder 5



Title 1



Accessible Table Data

TABLE 10.1 Physical Properties of the Giant Planets

	Jupiter	Saturn	Uranus	Neptune
Orbital semimajor axis (AU)	5.20	9.6	19.2	30
Orbital period (Earth years)	11.9	29.5	84.0	164.8
Orbital velocity (km/s)	13.1	9.7	6.8	5.4
Mass ($M_{\text{Earth}} = 1$)	317.8	95	14.5	17.1
Equatorial radius (km)	71,490	60,270	25,560	24,300
Equatorial radius ($R_{\text{Earth}} = 1$)	11.2	9.5	4.0	3.8
Oblateness	0.065	0.098	0.023	0.017
Density (water = 1)	1.33	0.69	1.27	1.64
Rotation period (hours)	9.9	10.7	17.2	16.0
Tilt (degrees)	3.13	26.7	97.8	28.3
Surface gravity (relative to Earth's)	2.53	1.07	0.89	1.14
Escape speed (km/s)	59.5	35.5	21.3	23.5

Pictures of tables or graphs with data should have full image description, and true accessible tables that accompany them.

Structural alt text for tables allows someone a chance to hear what the table contains and decide if it's relevant before listening to all the data cells.

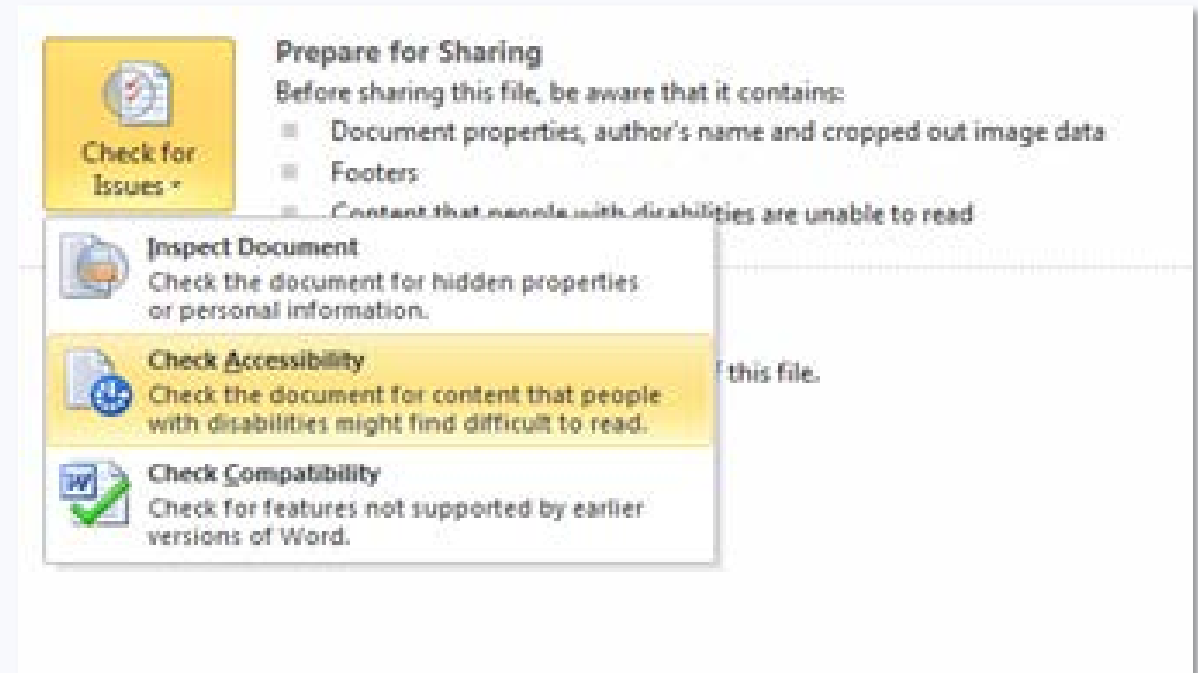
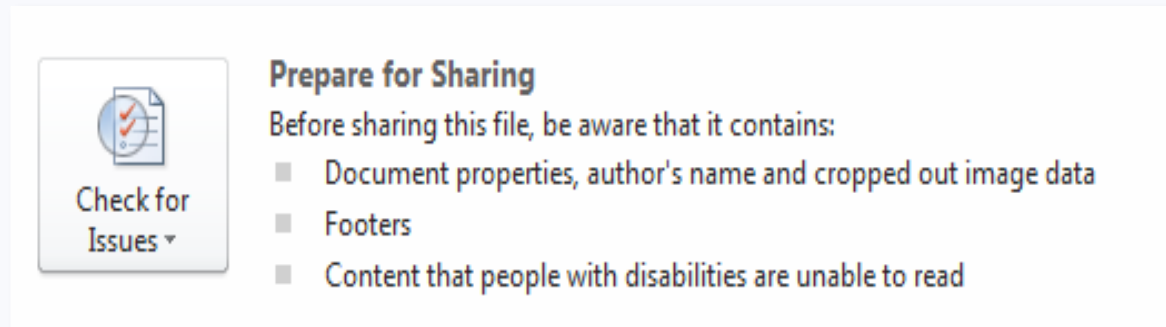
Example: Table 10.1 is titled Physical Properties of the Giant Planets. It has 5 columns and 13 rows. The column headings are Physical Property, Jupiter, Saturn, Uranus, and Neptune.

*Please note that because the first column heading was left blank, we filled it in so that the table would make more sense.

Using the Accessibility Check

To access the Accessibility Checker, go to the File tab and click **Check for Issues**

From the drop down menu, select **Check Accessibility**



Have Further Questions?

Contact our Customer Support Team
by phone (404) 894-7756 or by email
cidi-support@design.gatech.edu

CREATING THE NEXT®